

2005 Minerals Yearbook

ISLANDS OF THE CARIBBEAN

THE MINERAL INDUSTRIES OF THE ISLANDS OF THE CARIBBEAN

ARUBA, THE BAHAMAS, BARBADOS, DOMINICAN REPUBLIC, JAMAICA, TRINIDAD AND TOBAGO, AND OTHER ISLANDS

By Omayra Bermúdez-Lugo

ARUBA

The mining sector played a minor role in the economy of the island of Aruba. Aruba is located in the Caribbean Sea approximately 29 kilometers (km) off the Paraguana Peninsula of northern Venezuela. Mineral commodities produced in the country included petroleum refinery products and sulfur (table 1).

THE BAHAMAS

The Bahamas is a group of islands located in the Caribbean Sea to the southeast of Florida. Mining played a minor role in the country's economy. Mineral commodities produced were limited to aragonite and salt (table 1).

BARBADOS

Barbados is located to the east of the main chain of the Lesser Antilles group of islands on the boundary between the Caribbean Sea and the Atlantic Ocean. Mineral commodities produced in the country included clay, hydraulic cement, limestone, natural gas, petroleum, sand, and shale (table 1).

DOMINICAN REPUBLIC

The Dominican Republic is located on the eastern portion of the Caribbean island of Hispaniola. The country produced bauxite, cement, ferronickel, gypsum, limestone, marble, salt, sand and gravel, and steel. Limestone, marble, and sand and gravel were produced solely for domestic consumption. Amber and pectolite (larimar) were produced in modest amounts by artisanal miners. In 2005, the country produced about 2.8 million metric tons (Mt) of hydraulic cement; 534,555 metric tons (t) of bauxite; and 6,060 cubic meters of marble (table 1). Ferronickel was produced by Falconbridge Dominicana C. por A. (Falcondo) (a subsidiary of Falconbrdige Ltd. of Canada). The company mined, milled, and smelted its own nickel laterite ores. In 2005, Falcondo produced 28,668 t of nickel in ferronickel (table 1). The Dominican Republic did not produce petroleum and relied on imports of petroleum and refined petroleum products from Mexico and Venezuela to meet domestic needs. Petroleum was refined at Bonao by Falcondo to be used at the company's nickel plant and at Haina by Refinería Dominicana de Petróleo.

In 2005, mining activities continued to center around gold exploration. Production of gold and silver in the Dominican

Republic was suspended in 1999. The country's sole producer of gold and silver prior to 1999 had been Government-owned Rosario Dominicana S.A., which was a company established in 1975 to operate the Pueblo Viejo gold and silver mine. The mine had an original output capacity of about 12,400 kilograms per year of doré (gold and silver bullion bars). The company's estimated export earnings from 1975 to 1998 were about \$2.0 billion (Rafael Osiris de León, Secretary, Academy of Sciences of the Dominican Republic, written commun., July 2002). In July 2001, Placer Dome Inc. of Canada was awarded the right to negotiate an agreement to operate the Pueblo Viejo Mine and in August 2002, following the ratification of a Special Lease Agreement by the Congress of the Dominican Republic, the company launched a feasibility study at Pueblo Viejo. At the time, Placer Dome's allowed timeframe to reach a production decision was 4 years. In September 2005, Placer Dome Inc. announced its intention to go ahead with the development of the Pueblo Viejo gold mine. The company planned to produce a total of about 370,000 kilograms (kg) of gold (reported as 12 million troy ounces) for a period of 20 years at a capital cost of \$1 billion. During the first 6 years of operation, the mine is expected to produce an average of about 25,000 kg (reported as 800,000 troy ounces). In addition to the revamping of the mine, Placer Dome planned to build a 140-megawatt powerplant to support mining activities at Pueblo Viejo, which would be integrated into the national grid. The commissioning of the mine was subject to Placer Dome submitting a project notice and receiving the required permits from the Government for the mine and powerplant (Placer Dome Inc., 2005§¹).

In May, GlobeStar Mining Corp. announced the results of a revised feasibility study for the development of the Cerro de Maimon polymetallic deposit. Cerro de Maimon is located in the municipality of Maimon in the Nouel Province about 70 km northwest of Santo Domingo. The feasibility study, which was performed by Denver-based Behre Dolbear & Company Inc., yielded measured and indicated resources of about 4.9 Mt of ore at a cutoff grade of 1% copper and 1.0 grams per metric ton (g/t) gold, containing 2.516% copper, 1.481% zinc, 37.89 g/t silver, and 1.175 g/t gold. Inferred resources were estimated to be about 494,000 t of ore containing about 1.716% copper, 1.679% zinc, 30.2 g/t silver, and 0.730 g/t gold. The company was to invest about \$28.3 million in the initial phase of the project and an additional \$7.1 million for the installation of a sulfide circuit

¹References that include a section mark (§) are found in the Internet Reference(s) Cited sections.

once the oxide circuit is commissioned (GlobeStar Mining Corp., 2005a). In November, GlobeStar announced the results from a mine plan optimization study for Cerro de Maimon. The study envisioned a 22-month period for the engineering and construction of the sulfide plant, the commissioning of a 1,300ton-per-day (t/d) sulfide circuit to produce copper concentrates, and a 500-t/d oxide circuit to be commissioned 4 months after the commissioning of the sulfide plant (GlobeStar Mining Corp., 2005b).

Other companies that were exploring for gold in the Dominican Republic included Canadian companies Energold Mining Ltd., Gold Quest Mining Corporation, Linear Gold Corp., and Unigold Inc., and Las Lagunas Ltd. of Australia.

References Cited

- GlobeStar Mining Corp., 2005a, GlobeStar issues Behre Dolbear's technical report for their fully permitted, 100% controlled Cerro de Maimon copper/ gold project—Dominican Republic: Toronto, Ontario, Canada, GlobeStar Mining Corp. press release, May 17, 6 p.
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JAMAICA

Jamaica, which is the third largest island of the Greater Antilles group of islands, is located about 150 km south of Cuba and about 160 km west of Haiti. The country ranks among the world's leading producers of alumina and bauxite. Other mineral commodities produced in Jamaica included cement, gold, gypsum, lime, limestone, refined petroleum products, salt, and other construction materials. In 2005, alumina and bauxite production were about 4 Mt and 14.1 Mt, respectively. Production of cement was 844,840 t; gypsum was 302,066 t; and lime was 269,743 t (table 1). The country had one petroleum refinery, which processed crude petroleum into asphalt, automobile diesel oil, heavy fuel oil, liquefied petroleum gas, turbo fuel, and unleaded gasoline.

According to the Planning Institute of Jamaica (2006§), in 2005, the real GDP increased by 1.4% following a trend of 7 consecutive years of economic growth. Growth performance, however, was adversely affected by the residual impact of Hurricane Ivan; drought and bush fires during the first half of the year; hurricanes Dennis and Emily, which caused damage to infrastructure and productive assets estimated at about \$6 billion; and high petroleum prices. Mining and quarrying increased by 2.8%; bauxite production increased by about 6.2%. The performance in bauxite production, however, was lower than expected owing to a period of heavy rains associated with tropical storm Wilma, which prevented Alumina Partners of Jamaica (Alpart) and Jamaica Aluminum Company (Jamalco) from running at full capacity (Planning Institute of Jamaica, 2006§). The bauxite and alumina industry is Jamaica's second largest foreign exchange earner; it generated more than \$900 million in 2004 and was expected to generate more than \$1 billion in 2005 (Jamaica Information Service, 2005a§).

Jamalco, which was a joint venture between Alcoa World Alumina and Chemicals (AWAC) and the Government (50% each), mined bauxite in Manchester through a mining contractor (name not disclosed), and owned and operated an alumina refinery and port facilities in Jamaica. AWAC and the Government had signed an agreement to invest \$115 million to expand the Jamalco alumina refinery in 2002. The 250,000t/yr expansion and modernization of the plant were completed in November 2003 and, in 2005, AWAC and the Government announced plans to further increase capacity at the Jamalco refinery by an additional 1.5 million metric tons per year (Mt/yr). The expansion would cost \$1.2 billion and the first phase of the project, which would add 150,000 t/yr of capacity, was scheduled to be completed by the end of 2006. The second phase of the project, which would add an additional 1.35 Mt/yr of capacity, was expected to be completed by the end of 2007. Upon completion of these projects, AWAC's ownership in Jamalco would increase to 77% and the Government would retain the remaining interest (Alcoa World Alumina and Chemicals, 2005).

Jamaica depended on imported petroleum for most of its energy needs. Crude petroleum and petroleum products were imported from Mexico and Venezuela under the 1980 San Jose Accord. The Accord, which is renewed every year, allows Jamaica to import about 7,000 barrels per day (bbl/d) of oil equivalent supplied in equal proportion from Mexico and Venezuela. In addition, since 2000, Jamaica also receives about 7,400 bbl/d of crude petroleum and petroleum products from Venezuela under the Caracas Agreement. Under this agreement, Jamaica purchases petroleum from Venezuela at world market prices and pays only 75% of the purchase price; the remaining 25% is paid during a period of more than 15 years with 1 year's moratorium at an interest rate of 2% per year. At a meeting of Caribbean Energy Ministers held in Caracas, Venezuela, on July 10, 2004, Venezuela proposed a "PetroCaribe Initiative" to establish bilateral agreements in the energy sector with Caribbean countries and other countries within the Americas (excluding the United States) (Jamaica Information Service, 2005c§). On June 29, 2005, the PetroCaribe Energy Cooperation Agreement was signed between Jamaica and Venezuela. The agreement, which was seen as a replacement and enhancement of the Caracas Agreement, included the supply of 21,000 bbl/d of crude petroleum, petroleum products, and liquefied petroleum gas to Jamaica, of which 40% of the purchase price was to be provided as concessionary loans for up to 25 years at an interest rate of 1% per year when prices equal or exceed \$50 per barrel (Jamaica Information Service, 2005b§).

On February 16, 2005, Jamaica signed a letter of intent with Venezuela for the joint development of energy-related projects, which included upgrading the Petrojam Refinery. The first phase of the project would cost \$200 million and would include the expansion of the crude unit from 35,000 bbl/d to 50,000 bbl/d, a new vacuum unit, and a new visbreaker unit. The second phase of the project would include the installation of a coker and would cost between \$250 million and \$300 million. Construction work was scheduled to begin in 2006, and commissioning was scheduled for 2008. PDVSA Caribe and Petroleum Corporation of Jamaica planned to establish a new joint-venture company to oversee the refinery upgrade and expansion of local retail and establish trade ties with other countries in the region (Jamaica Information Service, 2005c§).

Reference Cited

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TRINIDAD AND TOBAGO

Trinidad and Tobago, which forms the southernmost islands of the Caribbean archipelago, is located northeast of Venezuela and northwest of Guyana. The leading industries in the country were chemicals, natural gas, petroleum, and tourism. Besides natural gas and petroleum, Trinidad also produced asphalt, cement, direct-reduced iron, limestone, natural gas liquids, and steel.

According to the Central Bank of Trinidad and Tobago (2006b, p. 1), real GDP increased by 7.0% in 2005 following a trend of 12 consecutive years of economic growth. The energy sector, which continued to be the major contributor to this growth, increased by 10.9% despite the shutting down of several facilities as a precautionary measure during the passage of tropical storm Emily. The increased output of the energy sector was attributed to increased production from the Atlantic LNG Train IV facilities and the M5000 methanol plant. The construction sector increased by 8.1%. Growth in the sector was attributed to ongoing investments in infrastructure for the energy sector, which included construction work at the M5000 methanol plant and at the Atlantic LNG Train IV facilities, and to the Government's public sector investment program for housing. Other projects that were underway in 2005 included the construction of La Brea Nitrogen Limited plant, which will produce ammonia and urea ammonia nitrate, and the Clico/ Ferrostaal plant, which will produce urea ammonia melamine (Central Bank of Trinidad and Tobago, 2006a, p. 8; 2006b, p. 3). In 2005, production of natural gas increased by about 9.9% to 33,270 million cubic meters and production of crude petroleum increased by about 17.2% to 52.7 million barrels (table 1).

As of 2005, 13 of the 15 members of the Caribbean Community and Common Market (CARICOM) had signed Venezuela's PetroCaribe petroleum alliance with the exception of Barbados and Trinidad and Tobago. Under PetroCaribe, countries can purchase up to 185,000 bbl/d of petroleum at market prices and pay upfront only part of the cost; the remaining cost can be converted into soft loans payable for a period of up to 25 years at a financing interest rate of 1%. Barbados and Trinidad and Tobago requested additional time to review the terms and implications of the agreement to their respective countries in particular given that Barbados already purchases petroleum products from Trinidad and Tobago at discount prices. Trinidad and Tobago wanted to examine how the agreement could affect its exports of petroleum products to the region (Central Bank of Trinidad and Tobago, 2006a, p. 14; BBC Caribbean.com, 2005§).

During the year, British Gas Trinidad and Tobago and Chevron Corporation announced the discovery of about 1 to 1.5 trillion cubic feet of natural gas in Block 6d, and the National Gas Company announced the completion of the Cross Island pipeline, which is a 36-cm-wide, 75.6-km-long pipeline from Beachfield, Guayaguayare, to Point Fortin at a cost of \$2.1 billion (Central Bank of Trinidad and Tobago, 2006a, p. 15-16).

In the natural gas sector, Government-owned Petroleum Company of Trinidad and Tobago (Petrotin) and World GTL Limited were to invest \$100 million for the construction of a gas-to-liquids plant at a mothballed methanol facility in Pointa-Pierre. The plant would use 18.4 million cubic feet per day (521,000 cubic meters per day) of natural gas as feedstock to produce 2,250 bbl/d of diesel that would be used as a blend stock for existing diesel produced by Petrotin. The plant was scheduled to be commissioned in 2007. The Government planned to open a bidding round in 2006 for four land and near-shore blocks and three offshore blocks, which included the Central Range Block, the Guayaguayare Block, the Herrera Block, the North Coast Marine Area (NCMA) 2 Block, the NCMA 3 Block, the South West Peninsula Block, and the 2ab Block (Central Bank of Trinidad and Tobago, 2006b, p. 5).

In April, the Ministry of Energy and Energy Industries awarded production-sharing contracts for Blocks 1a, 1b, 3b, and 5c to Petro/Canada Petrotin, Kerr McGee Offshore Petroleum Limited, Primera Block 3(b) Limited, and Canadian Superior Energy Inc., respectively (Central Bank of Trinidad and Tobago, 2006a, p. 13).

In July, Repsol YPF S.A. of Spain acquired a 70% interest in the Poui, the Samaan, and the Teak producing oilfields in Trinidad and Tobago in addition to the undeveloped Onyx gas field. The oilfields produce about 20,400 bbl/d of petroleum. The remaining interest was held by Petrotin (15%) and Government-owned National Gas Company of Trinidad and Tobago LNG (15%) (Repsol YPF S.A., 2005§).

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Central Bank of Trinidad and Tobago, 2006a, 2005 annual economic survey: Port of Spain, Trinidad and Tobago, Central Bank of Trinidad and Tobago, 125 p.

Central Bank of Trinidad and Tobago, 2006b, 2005 Economic bulletin: Port of Spain, Trinidad and Tobago, Central Bank of Trinidad and Tobago, v. 7, no. 3, November, 92 p.

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- BBC Caribbean.com, 2005, Caracas-Caribbean signs on to oil, accessed June 1, 2007, at URL http://www.bbc.co.uk/caribbean/news/ story/2005/09/050906_petrotuesday.shtml.
- Repsol YPF S.A., 2005, 2005 highlights, accessed January 20, 2007, at URL http://www.repsolypf.com/eng/todosobrerepsolypf/conozcarepsolypf/ repsolypfenelmundo/exploracionyproduccion/logros/logros. asp?PaginaID=101665.

OTHER ISLANDS OF THE CARIBBEAN

The mineral industries of other islands of the Caribbean (Antigua and Barbuda, Bermuda, Dominica, Grenada,

Guadeloupe and Martinique, Haiti, Montserrat, the Netherlands Antilles, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines) were small. Mineral production was limited mostly to cement, construction materials for domestic consumption, and salt. Petroleum refinery products were produced in Martinique and the Netherlands Antilles.

More-extensive coverage of the mineral industries of Aruba, The Bahamas, Barbados, Dominican Republic, Jamaica, Trinidad and Tobago, and other islands of the Caribbean can be found in the 2002 and 2003 U.S. Geological Survey Minerals Yearbook, volume III, Area Reports—International—Latin America and Canada, which are available on the World Wide Web at URL http://minerals.usgs.gov/minerals/pubs/country.

TABLE 1 ISLANDS OF THE CARIBBEAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

| Country and commodity | 2001 | 2002 | 2003 ^e | 2004 ^e | 2005 |
|--|------------------------|----------------------|---------------------------|---------------------------|------------------------|
| ARUBA ^{e, 2} | | | | | |
| Petroleum refinery products thousand 42-gallon barrels | 100,000 | 100,000 | 65,000 ³ | 80,000 ³ | 80,000 |
| Sulfur, byproduct of petroleum | 77,000 | 77,000 | 60,000 ³ | 65,000 ³ | 65,000 |
| BAHAMAS, THE ^{e, 4} | | | | | |
| Salt | 900,000 | 900,000 | 1,341,755 ³ | 1,269,209 ³ | 1,270,000 |
| Stone, argonite | 1,200,000 | 1,200,000 | 9,848 ^{r, 3} | 1,992 ^{r, 3} | 2,000 |
| BARBADOS ^{4, 5} | | | | | |
| Cement: | | | | | |
| Hydraulic | 249,544 ⁶ | 297,667 ⁶ | 325,106 ^{3,6} | 322,270 ^{3,6} | 322,000 ^e |
| Clinker | 241,899 ⁶ | 284,009 ⁶ | 300,291 ^{3,6} | 291,445 ^{3,6} | 291,000 ^e |
| Clay and shale | 132,000 ⁶ | 132,000 6 | 138,000 ^{r, 6} | 144,900 ^{3, 6} | 145,000 ^e |
| Limestone | 1,730,000 ⁶ | 1,230,000 6 | 1,785,000 3,6 | 1,874,250 ^{3, 6} | 1,870,000 ^e |
| Liquefied petroleum gas 42-gallon barrels | 17,587 ⁶ | 11,011 ⁶ | 3,690 6 | 6 | e |
| Natural gas: | | | | | |
| Gross million cubic meters | 32 ⁶ | 29 ⁶ | 23 ⁶ | 20 ⁶ | 20 ^e |
| Marketed do. | 16 ⁶ | 14 ⁶ | 12 6 | 13 ⁶ | 13 ^e |
| Petroleum, crude thousand 42-gallon barrels | 464 | 391 | 371 6 | 378 6 | 380 ^e |
| Sand ^e | 550,000 | 500,000 | 500,000 ⁶ | 500,000 ⁶ | 500,000 ^e |
| DOMINICAN REPUBLIC | | | | | |
| Bauxite | | | 6,481 ^{3,7} | 79,498 ^{3,7} | 534,555 ^{3,7} |
| Cement, hydraulic ⁸ | 2,745,980 | 3,050,430 | 2,906,699 r, 3, 7 | 2,653,639 ^r | 2,778,708 |
| Clay | NA | 314 8 | 41,894 ^{r, 7} | 84,730 ^{r, 7} | 85,000 ° |
| Gypsum ⁹ | 175,553 7 | 163,026 | 250,286 ^{3,7} | 459,496 ^{3,7} | 370,143 7 |
| Iron and steel: | | | | | |
| Ferroalloys, ferronickel | 60,654 ⁸ | 58,101 ⁸ | 69,628 ^{3,9} | 75,763 ^{3,9} | 61,057 7 |
| Steel, crude | 32,521 8 | 60,956 ⁸ | 61,000 | 61,000 | 60,000 ^e |
| Lime thousand metric tons | NA | 113 8 | 102 ^{3, 8} | 100 | 100 ^e |
| Limestone do. | 530 ⁷ | 1,115 8 | 1,607 3 | 1,214 ³ | 1,200 e |
| Marble ⁸ cubic meters | 5,420 7 | 6,333 | 8,186 | 10,384 | 6,060 ⁷ |
| Nickel, Ni content: | | | | | |
| Mine output, laterite ore | 39,120 ⁸ | 38,859 ⁸ | 45,253 ^{r, 3, 9} | 46,000 ^{3,9} | 45,900 ° |
| Metal, Ni contained in ferronickel: | | | | | |
| Smelter | 21,661 8 | 23,303 8 | 27,227 3,9 | 29,477 ^{3,9} | 28,668 ⁹ |
| Shipments | 23,411 8 | 22,945 8 | 26,486 ^{3,9} | 28,327 ^{3,9} | 26,183 9 |
| Petroleum refinery products: ^e | | | | | |
| Liquefied petroleum gas thousand 42-gallon barrels | 450 | 450 | 450 | 500 | 500 |
| Gasoline, motor do. | 1,900 | 1,900 | 1,900 | 2,000 | 2,000 |
| Kerosene do. | 90 | 90 | 90 | 100 | 100 |
| Jet fuel do. | 1,800 | 1,800 | 1,800 | 1,900 | 1,900 |
| Distillate fuel oil do. | 2,700 | 2,700 | 2,700 | 2,900 | 2,900 |
| Residual fuel oil do. | 4,400 | 4,400 | 4,400 | 4,600 | 4,600 |
| Total do. | 11,300 | 11,300 | 11,300 | 12,000 | 12,000 |
| Salt: | | | | | |
| Marine ^e | 50,000 | 50,000 | 50,000 | 50,000 | 50,000 ^e |
| Rock | 189,595 | 157,278 8 | 106,988 ^{3, 8} | | e |
| Total | 239,595 | 207,278 | 156,988 ^{3, 8} | 50,000 | 50,000 |
| Sand and gravel ⁸ thousand cubic meters | 15,486 | 15,977 ^r | 14,374 ³ | 13,266 ³ | 13,300 ° |
| GUADELOUPE ^{e, 4, 10} | | | | | |
| Cement | 265,200 ³ | 229,500 ³ | 229,500 ³ | 230,000 | 230,000 |
| Limestone | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| Pumice | 210,000 | 210,000 | 210,000 | 210,000 | 210,000 |
| Salt | 49,000 | 49,000 | 49,000 | 49,000 | 49,000 |
| HAITI ^{e, 11} | 77,000 | 72,000 | 72,000 | 77,000 | 77,000 |
| | 203,768 ³ | 290,298 ³ | 290,300 ³ | 290,000 | 290,000 |
| Cement See footnotes at end of table | 205,708 | 290,298 | 290,500 | 290,000 | 290,000 |

See footnotes at end of table.

TABLE 1--Continued ISLANDS OF THE CARIBBEAN: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

| Country and commodity | 2001 | 2002 | 2003 ^e | 2004 ^e | 2005 |
|--|-----------------------|--|---|---|---|
| HAITIContinued ^{e, 11} | | | | | |
| Sand and gravel: | | | | | |
| Gravel cubic meters | 450,000 | 450,000 | 450,000 | 450,000 | 450,000 |
| Sand do. | 2,000,000 | 2,000,000 | 2,000,000 | 2,000,000 | 2,000,000 |
| Stone, marble cubic meters | 131 | 131 | 131 | 131 | 131 |
| JAMAICA | | | | | |
| Aluminum: ¹² | | | | | |
| Bauxite, dry equivalent, gross weight thousand metric tons | 12,370 | 13,119 ¹³ | 13,445 ^{3, 13} | 13,297 3, 13 | 14,118 ¹⁴ |
| Alumina do. | 3,542 | 3,631 13 | 3,844 3, 13 | 4,021 3, 13 | 4,086 14 |
| Cement, hydraulic ¹² | 596,247 | 613,981 13 | 607,682 ^{3, 13} | 808,070 3, 13 | 844,840 14 |
| Clay ¹² | 91 | 66 ¹³ | 81 3, 13 | 525 ^{3, 13} | 45 14 |
| Gold ¹² kilograms | 214 | 328 13 | 277 3, 13 | 20 ^{r, 14} | 14 |
| Gypsum ¹² | 320,323 | 164,880 ¹³ | 248,558 ^{3, 13} | 283,352 ^{3, 13} | 302,066 14 |
| Lime ¹² | 281,853 | 255,266 ¹³ | 275,763 ^{3, 13} | 269,139 ^{3, 13} | $269,743^{-14}$ |
| | 3,600 | 3,600 | 3,600 | 3,600 | 11,600 |
| | | 19,000 ° | | | |
| Salt | 19,070 | , | 19,000 2,316 ^{3, 13} | 19,000 2,362 ^{r, 3, 14} | $19,000^{e}$ |
| Sand and gravel do. | 2,205 | $2,249^{-13}$ | / | _, | 2,392 ¹⁴ 164,235 ¹⁴ |
| Shale, for cement | 151,277 | $\begin{array}{c} 144,205 \\ 9,367 \\ {}^{13} \end{array}$ | 217,005 ^{3, 13} 12,825 ^{3, 13} | 184,993 ^{3, 13} 11,172 ^{3, 13} | $164,235^{14}$ 14,261 ¹⁴ |
| Silica sand ¹² | 8,244 | | | 9 ¹³ | 14,261 ¹⁴ |
| Silver kilograms | 95 | 174 ¹³ | 92 ^{3, 13} | 9 | ** |
| Stone: ¹³ | 2 400 | 2 522 13 | 2 502 3 13 | 2 500 13 | 2 (10 14 |
| Limestone thousand metric tons | 3,488 | 3,522 ¹³ | 3,593 ^{3,13} | 2,500 13 | 2,610 14 |
| Marble, cut and/or polished | 150 | 150 ^{r, 13} | 155 ^{3, 13} | 120 ¹³ | 120 ¹⁴ |
| Marl and fill thousand metric tons | 5,422 | 5,693 13 | 6,376 ^{3, 13} | 5,900 13 | 5,310 14 |
| MARTINIQUE ^{e, 4, 10} | | | | | |
| Cement, hydraulic | 255,000 ³ | 220,500 ³ | 221,000 ³ | 221,000 | 221,000 |
| Lime | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| Petroleum refinery products thousand 42-gallon barrels | 4,800 | 4,800 | 4,800 | 4,800 | 4,800 |
| Pumice | 130,000 | 130,000 | 130,000 | 130,000 | 130,000 |
| Salt | 200,000 | 200,000 | 200,000 | 200,000 | 200,000 |
| NETHERLANDS ANTILLES ^{e, 2} | | | | | |
| Petroleum refinery products thousand 42-gallon barrels | 80,000 | 80,000 | 80,000 | 80,000 | 80,000 |
| Salt | 500,000 | 500,000 | 500,000 | 500,000 | 500,000 |
| Sulfur, byproduct of petroleum | 30,000 | 25,000 r | 23,000 r | 23,000 | 23,000 |
| SAINT KITTS AND NEVIS | | | | | |
| Sand and gravel | 215,000 ° | 227,700 | 223,000 | 223,000 | 223,000 |
| Stone, crushed | 121,270 | 130,800 | 131,000 | 131,000 | 131,000 |
| TRINIDAD AND TOBAGO | | | | | |
| Asphalt, natural ¹⁴ | 16,216 | 16,203 | 16,200 | 16,200 | 16,200 |
| Cement, hydraulic | 696,800 ¹⁵ | 743,700 15 | 765,600 ^{3, 16} | 768,400 ^{3, 17} | 686,400 ¹⁷ |
| Iron and steel: ¹⁵ | , | , | , | , | , |
| Direct-reduced iron | 2,186,382 16 | 2,316,300 16 | 2,275,000 ^{3,16} | 2,336,500 3, 17 | 2,055,000 17 |
| Steel, crude | 696,111 | 838,900 | 923,000 | 783,000 | 783,000 ° |
| Semimanufactures, billets | 668,267 ¹⁶ | 816,900 ¹⁶ | 896.000 ^{3, 16} | 789,800 ^{3, 17} | 712,000 ¹⁷ |
| Lead, refined, secondary ^e | 1,600 | 1,600 | 1,000 | 1,000 | 1,000 |
| Natural gas: | 1,000 | 1,000 | 1,000 | 1,000 | 1,000 |
| · · | 16,599 ¹⁷ | 19,172 ¹⁵ | 26,810 ^{3,15} | 30,273 ^{3, 17} | 33,270 17 |
| Gross million cubic meters | 15,173 ¹⁷ | 19,172 ¹⁵ 17,777 ¹⁵ | 26,046 ^{3, 15} | 29,456 ^{3, 17} | 33,270 ³⁷ 31,348 ^{3, 17} |
| Marketed do. | 7,521 ¹⁷ | 8,505 ¹⁵ | $10,500^{-15}$ | 10,687 ^{3,17} | 9,889 ^{3, 17} |
| Natural gas liquids thousand 42-gallon barrels | | | 3,529,000 ^{3, 15} | 3,875,300 ⁻³ | |
| Nitrogen, N content of anhydrous ammonia | 3,036,307 17 | 3,258,619 15 | 3,529,000 5,15 | 3,8/5,300 | 5,187,400 17 |
| Petroleum: | 41 470 15 | 17 00 1 15 | 10 11 - 3 17 | 44.007 3 17 | 50 5 10 17 |
| Crude thousand 42-gallon barrels | 41,469 ¹⁵ | 47,824 15 | 49,117 ^{3,17} | 44,985 ^{3, 17} | 52,740 ¹⁷ |
| Refinery products do. | 54,818 15 | 54,788 15 | 52,876 ^{3, 17} | 46,349 ^{3, 17} | 55,219 ¹⁷ |
| Stone, limestone ¹⁴ thousand metric tons | 975 | 851 | 850 | 850 | 850 |
| Sulfur, byproduct of petroleum ^{e, 18} | 15,000 | 14,000 | 29,000 | 29,000 | 29,000 |
| Urea | NA | 310,100 | 297,600 ³ | 284,900 ³ | 285,000 |

See footnotes at end of table.

^eEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^fRevised. NA Not available. -- Zero.

¹Table includes data available through November 28, 2006.

²In addition to commodities listed, crude construction materials (lime, sand, stone, and so forth) may also be produced, but data on such production are not available, and information is inadequate to make reliable estimates of output.

³Reported figure.

⁴In addition to commodities listed, crude construction materials (sand and gravel, and so forth) may be also produced, but data on such production are not available, and information is inadequate to make reliable estimates of output.

⁵Barbados also produced stone, but data on such production are not available, and information is inadequate to make reliable estimates of output.

⁶Ministry of Energy and Public Utilities of Barbados.

⁷Source: Direccón General de Minería de la República Dominicana.

⁸Source: Banco Central de la República Dominicana.

⁹Source: Falconbridge Dominicana C. por A.

¹⁰Guadeloupe and Martinique also produced stone, but data on such production are not available, and information is inadequate to make reliable estimates of output.

¹¹In addition to commodities listed, asphalt, lime, and salt may also be produced, but data on such production are not available, and information is inadequate to make reliable estimates of output.

¹²Source: Ministry of Mining and Energy of Jamaica.

¹³Source: Ministry of Land and Environment of Jamaica.

¹⁴Ministry of Agriculture and Lands, Mines and Geology Divison of Jamaica.

¹⁵Source: Ministry of Energy and Energy Industries of Trinidad and Tobago.

¹⁶Source: Caribbean Ispat Limited.

¹⁷Source: Central Bank of Trinidad and Tobago Annual Economic Survey.

¹⁸Sulfur as a byproduct of natural gas may be produced, but information is inadequate to make reliable estimates of output.

TABLE 2

ISLANDS OF THE CARIBBEAN: STRUCTURE OF THE MINERAL INDUSTRIES IN 2005

(Metric tons unless otherwise specified)

| outhern Aruba torage facilities, Freeport | 230,000 |
|--|---|
| | |
| orage facilities, Freeport | |
| torage facilities, Freeport | 20.000 |
| torage racinties, receptin | 20,000 |
| | 20,000 |
| | |
| A | NA |
| Λ | NA |
| | |
| a Vaga Province town of | 28 000 |
| • | 28,000 |
| | |
| | 24.000 |
| aina Port | 34,000 |
| | |
| -Correction Of Elizabeth | 1 500 000 |
| ennery, Nain, St. Elizabeth | 1,500,000 |
| | |
| · | 1 200 000 |
| • | 1,200,000 1 |
| Saint Catherine | |
| · 1 · 117 1 6 | |
| • | |
| Manchester | |
| | |
| • | 1,270,000 |
| | |
| | |
| auxite mine, Discovery Bay | 4,500,000 ² |
| | |
| auxite mine, Manchester | NA |
| | |
| auxite mine in | NA |
| Schwallenburgh, Ewarton | |
| | |
| auxite mine in Russell Place | NA |
| | |
| | |
| ingston Port | 36,000 |
| | |
| | |
| oint Lisas Industrial Estate | 500,000 |
| | |
| | |
| do. | 454,000 |
| | |
| | |
| do. | 227,000 |
| | |
| | |
| do. | 1,758,000 |
| | -,0,000 |
| | |
| | (454 000) |
| | (454,000) (454,000) |
| | (454,000) (454,000) (250,000) |
| | auxite mine, Manchester auxite mine in Schwallenburgh, Ewarton auxite mine in Russell Place ingston Port pint Lisas Industrial Estate do. |

See footnotes at end of table.

TABLE 2--Continued ISLANDS OF THE CARIBBEAN: STRUCTURE OF THE MINERAL INDUSTRIES IN 2005

(Metric tons unless otherwise specified)

| Country and commo | Ť | Major operating companies | Location of main facilities | Annual |
|--|---|---|-------------------------------|-----------|
| TRINIDAD AND TOP | BAGO | | | |
| Continued | | | | |
| AmmoniaContinued | | Caribbean Nitrogen Company I | Point Lisas Industrial Estate | 660,000 |
| | | (a consortium of Clico Energy Company Ltd., | | |
| | | Ferrostaal AG of Germany, Duke Energy Corp., | | |
| | | EOG Resources Inc., and Kellogg, Brown, and | | |
| | | Root of the United States) | | |
| Do. | | Caribbean Nitrogen Company II | do. | 660,000 |
| | | (a consortium of Clico Energy Company Ltd., | | |
| | | Ferrostaal AG of Germany, Duke Energy Corp., | | |
| | | EOG Resources Inc., and Kellogg, Brown, and | | |
| | | Root of the United States) | | |
| Do. | | Point Lisas Nitrogen Limited (formerly Farmland | do. | 600,000 |
| D0. | | Misschem) (Mississippi Chemicals, 50%, and | 40. | 000,000 |
| | | KOCH Minerals Services LLC of the | | |
| | | | | |
| [| | United States, 50%) | Deint Line Comme | 2 200 000 |
| Iron and steel | | Mittal Steel Point Lisas Limited, formerly Caribbean | Point Lisas, Couvas | 2,200,000 |
| | | Ispat Limited, (Mittal Steel Group): | | |
| | | Direct-reduced iron pellets | | (900,000) |
| | | Billets | | (700,000) |
| | | Wire Rods | | (600,000) |
| Liquefied natural gas | | Atlantic LNG Company of Trinidad and Tobago | Point Fortin | |
| | | Train 1 (BP Trinidad and Tobago LLC, 34%; British | | NA |
| | | Gas Trinidad Ltd., 26%; Repsol YPF S.A., 20%; | | |
| | | Tractobel Trinidad LNG Corp, 10%; National Gas | | |
| | | Company of Trinidad and Tobago, 10%) | | |
| Do. | | Trains 2 and 3 (BP Trinidad and Tobago LLC, 42.5%; | do. | NA |
| | | British Gas Trinidad Ltd., 32.5%; Repsol YPF S.A., 25%) | | |
| Do. | | Train 4 (BP Trinidad and Tobago LLC, 37.7%; British | do. | NA |
| | | Gas Trinidad and Tobago Limited, 28.89%; Repsol | | |
| | | YPF S.A., 22.22%; National Gas Company of Trinidad | | |
| | | and Tobago, 11.11%) | | |
| Methanol ³ | | Trinidad and Tobago Methanol Company I | do. | 500,000 |
| | | (CIL Financial, Ferrostaal AG, Helm AG, | | , |
| | | GE Capital Group) | | |
| Do. | | Trinidad and Tobago Methanol Company II | do. | 500,000 |
| 20. | | (Owned by Trinidad and Tobago Methanol | uo. | 500,000 |
| | | Company) | | |
| Do. | | Caribbean Methanol Company Ltd. (two plants) | do. | 1,050,000 |
| | | | d0. | 1,050,000 |
| | | (Clico Energy Company Ltd., a subsidiary of a local | | |
| | insurance conglomerate, Ferrostaal A.G. of Germany, and | | | |
| _ | | the Methanex Corporation of Canada | | |
| Do. | | Atlas plant (Methanex Corporation, 100%) | do. | NA |
| Do. | 10 | New Methanol Holdings M5 Plant | do. | NA |
| Natural gas liquids 42-galle barrels per da | 42-gallon | Phoenix Park Gas Processors Limited (National Gas | NA | 33,500 |
| | parrels per day | Company of Trinidad and Tobago, 51%; Conoco Inc., | | |
| | | 39%; Pan West Constructors, 10%) | | |
| Petroleum, refinery 42-ga | 42-gallon | Petroleum Company of Trinidad and Tobago Ltd. | Pointe-a-Pierre | 175,000 |
| t | parrels per day | (Petrotin) (Government, 100%) | | |
| Urea | | PCS Nitrogen Trinidad Limited | do. | 530,000 |
| | | (Potash Corporation of Saskatchewan, 100%) | | |

NA Not available.

¹Dry metric tons.

²Ewarton and Kirkvine's combined capacity.

³Combined capacity of all six methanol plants is 3.1 million metric tons.

⁴Two plants with production capacities of 500,000 metric tons per year (t/yr) and 550,000 t/yr.